JX26XXXA（B）DIGITAL MMDS TRANSMITTER

User Manual

V3.0

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A. Safety Cautions

- Provide enough ventilate space for equipment
- Clean equipment by soft cloth and PH=7 cleaning liquid
- Forbid connecting or changing cable when equipment powered on
- Forbid to take off equipment case
- Forbid equipment from exposing in overheat, over frozen or over humidity places
- Keep liquid, spray or other things from the equipment inside

B. Package Check

When users open the package of the equipment, it is necessary to check items according to packing list. Normally it should include the following items:

- Manual book 1pc
- Transmitter 1set
- Power supply 1pc
- Key 2pcs
- Fixed rack 2pc
- M12 bolts 20pcs
- NJ-NJ/3m microwave Cable(RF jumper cable) 1pc

C. System Summarization:

JX26XXXA（B）series transmitter adopts frequency converting working model. Firstly, input modulated intermediate carrier; secondly, up convert the carrier to microwave frequency band; thirdly, amplify it by the way of high gain and high linearity, and connect it to 50/N output connector jack of panel. When using transmitter, connect it to transmitter's antenna by RF jumper feed cable. The

transmitter has the continuous working capability, and this capability depends on all components of transmitter, and make sure to provide steady power supply system and lighting protection equipment etc.

In order to suitable to large changing range of input IF signal, this transmitter is designed with close loop automatic 20dBc-electrical level controlling to keep input level controlled within 20dB, thus, it could maintain the output carrier power unchanged relatively.

In order to suitable to working in abnormal situations to protect the transmitter from unnecessary damages, this transmitter is designed with internal overheat protection, such as when temperature is higher than 60℃, it will cut off power automatically. All active components such as amplifier are designed with self-protections for over-current, over-voltage, short-circuit current.

This transmitter is compatible with digital and analog baseband signal, adapts to IF intermediate carrier of adopting digital modulation such as QPSK、QAM、COFDM etc., But it will lead to different RF output level from the same transmitter because of different modulation methods. This transmitter has been adjusted according to its modulation mode, thus, it will not need to be adjusted again when used. When need to change modulation, it should be done by its manufacturer.

This transmitter adopts blind searching receiving system. Please compare the test results for some main specifications to check transmitter. When in use, only connect input signal from transmitting antenna and power supply for transmitter, input needed IF signal, then power it on to work without any extra adjustments.

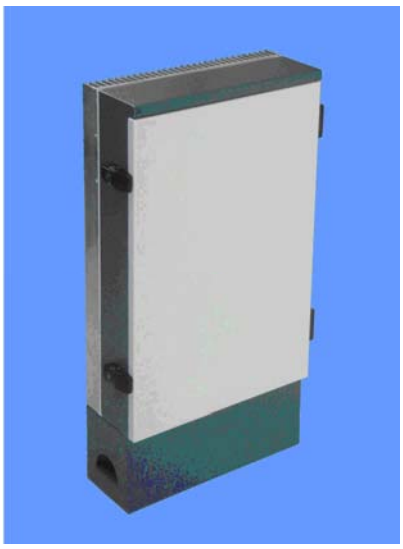
When the output power is lower than 50W, the metallic radiator is used to radiate heat naturally.

When the output power is higher than 100W, both the metallic radiator and wind power are used to radiate heat.

D. The whole appearance figure and indicator、connector explanations:

1．Out-door transmitter

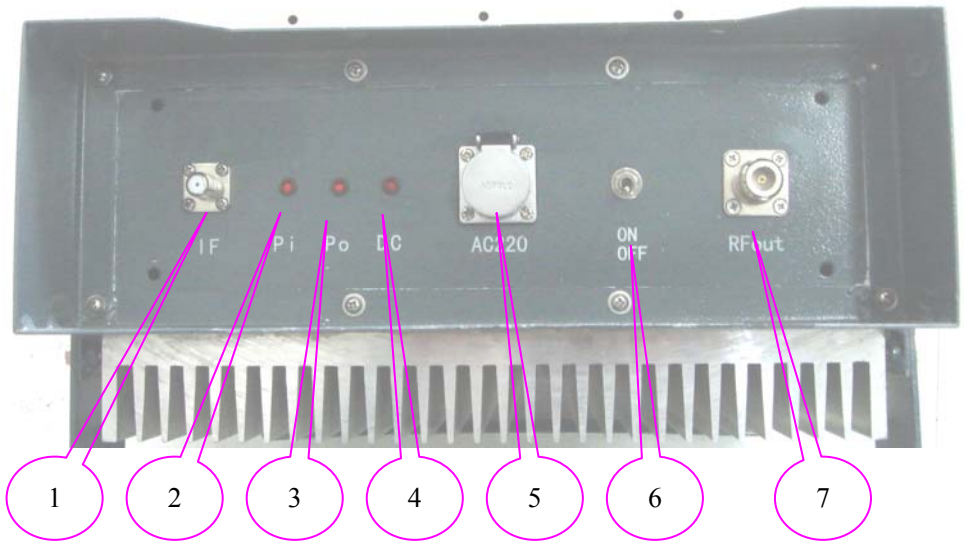
50~200W



50~100W

5~20W

2、Rear Panel:



Connector Explanations:

1、IF signal input connector; 2、Input signal level indicator;

3、Controlling output power indicator; 4、Direct current power indicator;

5、AC220V alternating current power connector; 6、Power supplying switch;

7、RF outputting connector;

E. Fitting and Debugging

1、The transmitter fitting:

Firstly, install equipment in suitable place. The parts are assembled and fitted on the shelf of the transmitter. Secondly, the ground connector of transmitter must be connected to the ground connector of the building's ground connector or metallic tower, and this machine must be supplied by the power supply. The IF Modulator

and its cables must be connected to IF cables of transmitter firmly. RF output cables must be connected to the feeding cables of antenna firmly, these connectors and cables must be treated as waterproof.

2、 The transmitter testing：

Alarm: Please make sure "RF OUT" port of transmitter is connected well with load or transmitting antenna before switch on the power of transmitter, please don't run it without load, which will damage transmitter.

Make sure that RF out port is connected to transmitting antenna system or at least 100w power loader , then testing impedance between IF input signal cable's crust ground and ground of IF modulator' cables is **nearly zero**. This implies that ground's connecting is well, otherwise we must check weather the transmitter is not connected to ground or connecting ground is not well.

3、Debugging transmitter：

（1）、T**his transmitter level range: -30dBm（77dBuv）~-15dBm(92dBuv）；**

（2）、Set each modulators' level to -30dBm（77dBuv）for standby.

Test Transmitter without load: When switch it on, power indicator (DC) lights on, rest indicators are off, transmitter works in normal status. Then switch it off for standby. It is shown as picture 1.

Picture 1

（3）、when connect IF signal to transmitter, and switch it on, at the same time, the indicator of Pi and DC light on, but the rest indicators are off(Note: please increase or decrease the input level of modulator under different circumstance). If input level from modulator is lower than minimum level of transmitter's demand, the output power will be lower than the rate power of transmitter. It is shown as picture 2.

Picture 2

（4）、Increase the input level of modulator step by 1dB until the power indicator (Po)lights on, at the same time, all the rest indicators such as PI, Po and DC light on. Po indicator will take process from off to on. When the output power of transmitter just reaches to the rate working power, at this moment, the AGC (Auto

Gain Controlling) doesn't begin to work. It is shown as picture 3.

Picture 3

（5）、Keeping adjusting input level of modulator step by 1dB as (4) until the AGC is getting light. The control level by AGC is about 5-7dB, when all the lights including PI、AGC、Po、DC light on, the transmitter works steadily under controlled. It is shown as Picture 4.

Picture 4

(6)、If the IF isn't from modulator, but others kinds (such as from fiber receiver or the wireless relays etc.) , should adjust IF output level , and increase signal level from low to high to follow the above process as from (1) to (5) .

F .Maintenance

Transmitter's warranty is one year; manufacturer is responsible for repair under the Natural circumstance without including any human causes. Manufacturer is responsible for maintenance for above one year warranty with cost payment.

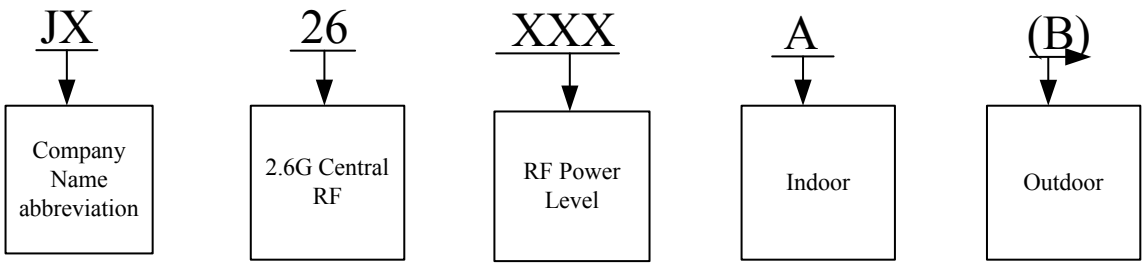
If the transmitter has strong requirements for cooling and heat radiator by a blower, it needs to exchange another new blower every two years, and check it every year.

G. Demands of storing and transportation

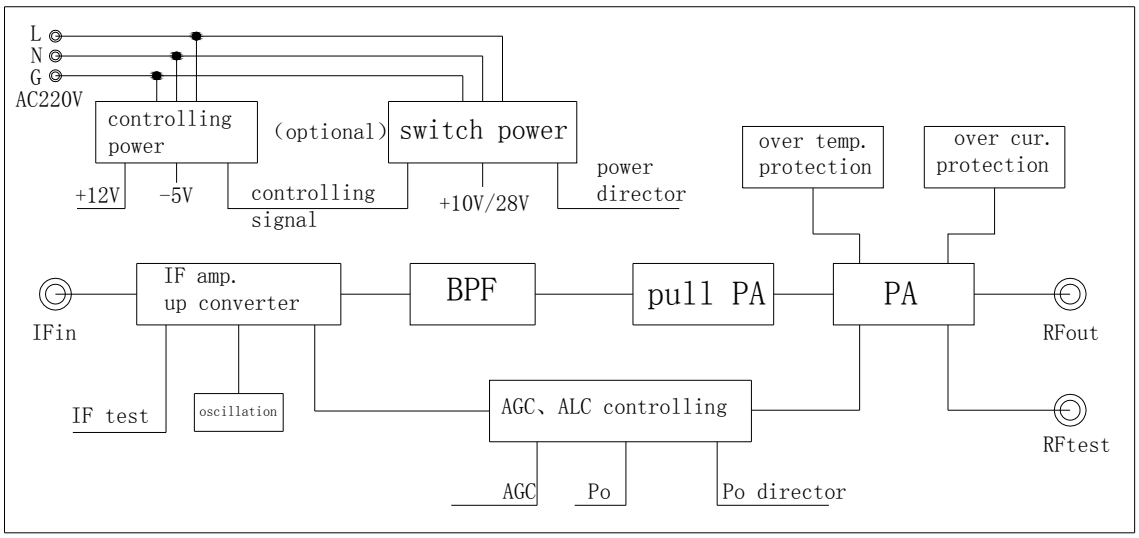
When the transmitter is transported, its packages must be shockproof, extrusion proof, rainproof and waterproof. It is loaded and discharged carefully.

H. Electrical Schematic Figure

1、Model Illuminating：



2、Schematic Drawing：



Model: JX26005/010/020/030/050/100/200 transmitter circuit schematic figure

I. Specifications for Digital/Analog MMDS Transmitter

Model	**JX26010**	**JX26020**	**JX26030**	**JX26050**	**JX26100**	**JX26200**
RF output power （P-P）	10W	20W	30W	50W	100W	200W
ACPR（dBc）	≥40	64QAM				
	≥25	QPSK				
RF output frequency	2500～2700MHz(adjust freely the bandwidth of carrier signals within 200Mhz)					
RF output port	50Ω/N model connector、return loss〉20dB					
RF frequency response	BW：200MHz ；in band ripple：≤2.0dB；in band of 10MHz：≤1.0dB					
group delay	≤40nsec					

character	
L.O. Frequency	2033MHz(Customized)，stabilizer 1×10^{-6}
L.O. Phase Noise	$N_{\Phi}\leq$-100dBc/Hz@10KHz
IF input level	-25～-5dBm
IF input signal frequency	467 ～ 667MHz(*670 ～ 870MHz,f_L: *1830MHz,*Special Requirements)
IF input port	75Ω/F type connector, return loss〉15dB
spurious rejection in band	-60dBc（compared with the level of digital signals）
AGC/ALC	20dB
circumstance	temperature：-20℃～+45℃； humidity：uncondensation； relative humidity：0～95% unsaturation
power supply	AC 220V±10%,50/60Hz, power consumption: change with output power
dimension(L*W*H)	Up to different power
weight（Kg）	changing with output power
Control Panel	75Ω/F type，50Ω/N type，7-hole connector for test，3-hole connector for AC power supply, AC power switcher, electricity indicator, power supply indicator、power indicator、IF signal indicator